

Claims:

1. A toughened glass body;
 - 1.1 comprising a base body of glass and at least one layer applied thereto;
 - 1.2 at least one layer is under compressive stress or tensile stress.
2. A glass body as claimed in Claim 1, characterised in that the compressive or tensile stress is of the order of 100 to 1000 MPa.
3. A glass body as claimed in Claim 1 or 2, characterised in that the layer material comprises organic or inorganic materials or a mixture or a compound of organic and inorganic materials.
4. A glass body as claimed in any one of Claims 1 to 3, characterised in that the layer under stress covers the surface of the glass body entirely or partially.
5. A glass body as claimed in any one of Claims 1 to 4, characterised in that the base body is present as flat glass, bent flat glass or as container glass.
6. A glass body as claimed in Claim 5, characterised in that the thickness of the base body is of the order of 10 to 1500 μm .
7. A glass body as claimed in any one of Claims 1 to 6, characterised in that the base body is flexible and the thickness of the glass is of the order of 10 to 200 μm .
8. A glass body as claimed in any one of Claims 1 to 7, characterised in that at least one of the two or more layers is applied for protecting the layer or layers under stress.
9. A process for manufacturing a glass body as claimed in any one of Claims 1 to 8, characterised by the following procedural steps:
 - 9.1 one or more layers is or are applied to the glass by dipping, centrifuging, laminating or spraying of organic polymers, inorganic materials or organically modified ceramic materials by means of sol gel technology;

9.2 at least one layer is reprocessed to adjust the required layer stress.

10. A process as claimed in Claim 9 characterised in that the layer comprises a polymer whose tear-growth resistance is at least 10N/mm.

11. A process as claimed in Claim 9, characterised in that there is subsequent processing by means of thermal drying, electromagnetic radiation, UV treatment, UV/ozone treatment, corona treatment, electron radiation and flaming.

12. A process as claimed in any one of Claims 1 to 8, characterised in that coating is carried out in a vacuum using physical vaporising or sputter processes.

13. A process as claimed in any one of Claims 1 to 8, characterised in that coating is carried out by means of plasma-supported precipitation from the gaseous phase, by plasma polymerisation or by a plasma arc process.

14. A process as claimed in Claim 11, characterised in that metals, semiconductors, metal oxides, semiconductor oxides, metal nitrides, metal carbonitrides, metal oxynitrides, metal oxycarbides, semiconductor nitrides, semiconductor carbonitrides, semiconductor oxynitrides, semiconductor carbides, or metals or mixtures of these materials.

15. A process as claimed in Claim 12, characterised in that volatile metal compounds or volatile organic or metallorganic compounds are used as starting materials.

16. A process as claimed in any one of Claims 11 to 14, characterised in that the layer stress is set by a bias, generated by applying a direct voltage or an alternating voltage to the substrate.

17. A process as claimed in any one of Claims 1 to 15, characterised in that coating and subsequent treatment are carried out immediately after hot moulding.

18. Displays manufactured with glass substrates as claimed in Claims 1 to 16.
19. Hard disks manufactured with glass substrates as claimed in Claims 1 to 16.
20. Electrical circuit carrier manufactured with glass substrates as claimed in Claims 1 to 16.
21. Hardened flat glass as claimed in Claims 1 to 8, characterised in that coating on at least one side fulfils further functional characteristics.
22. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as blooming coat.
23. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as reflecting or absorption layer.
24. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as diffusion barrier.
25. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as photo-sensitive layer.
26. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as polariser.
27. Hardened flat glass as claimed in Claim 17, characterised in that the coating on at least one side serves as information storage.

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